

**REMARKS**

At the time of the Office Action dated December 3, 2003, claims 1-21 were pending in this application. Of those claims, claims 1-5, 9, 11 and 13 have been rejected and claims 14-20 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b). Applicants acknowledge, with appreciation, the Examiner's indication that claims 6-8, 10, 12 and 21 contain allowable subject matter. Claims 1-3 have been amended to clarify that the claimed insulating film is an element isolating insulating film. Applicants submit that the present amendment does not introduce any new matter.

**CLAIMS 1-3, 11 AND 13 ARE REJECTED UNDER THE FIRST PARAGRAPH OF 35 U.S.C. §**

**112**

On page two of the Office Action, the Examiner asserted that certain subject matter recited in claims 1-3, 11 and 13 was not enabled by Applicants' disclosure. In particular, the Examiner asserted that the none of figures disclose a plurality of resistive elements formed over an insulating film that are partitioned by active regions. This rejection is respectfully traversed.

The issue raised by a rejection under the first paragraph of 35 U.S.C. § 112 is whether the disclosure conveys, with reasonable clarity to one skilled in the art, that the inventor was in possession of the invention. The particular limitations to which the Examiner refers are: "a plurality of resistor elements formed on an insulating film" and "wherein said active regions partition said insulating film between adjacent resistor elements." In this regard, the Examiner is

directed to page 9, lines 13-22 of the disclosure, which refers to Fig. 1A, in which it is stated that:

Over the element isolating oxide film 2, rectangular resistor elements 4 having a width W each are formed by use of an MOS transistor gate layer ... In this structure, the element isolating oxide film 2 is partitioned by the element active regions 3 corresponding to the individual resistor elements 4.

As such, given that both the drawings and specification illustrate/describe a plurality of resistor elements 4 formed on an insulating film 2 and that active regions 3 partition the insulating film 2 between adjacent resistor elements 4, Applicants respectfully submit that the disclosure fully supports these limitations in such a way as to enable one skilled in the art to make and/or use the invention.

Applicants note that the Examiner's assertion that Figure 4 is "the only Figure showing plurality resistive elements (4) formed over an insulating film (2)" is factually incorrect. Figs. 1A, 1B, 2A, 2B, 3, 4, 5A, 5B, among others all disclose this particular feature. The Examiner's error may have resulted from the Examiner's interpretation that the insulating film 2 shown in the cross-section (i.e., Figs. 1B, 2B, 5B) appears to include discrete insulating film portions. This interpretation, however, is incorrect since each plan view (i.e., Figs. 1A, 2A, 5A) of the insulating film 2 shows that insulating film 2 to be interconnected. Based upon the above comments, Applicants respectfully solicit withdrawal of the imposed rejection of claims 1-3, 11 and 13 under the first paragraph of 35 U.S.C. § 112.

**CLAIMS 1-13 AND 21 ARE REJECTED UNDER THE SECOND PARAGRAPH OF 35 U.S.C. §**

**112**

In the second enumerated paragraph on page two of the Office Action, the Examiner asserted that claims 1-13 and 21 are indefinite for failing to particularly point out and distinctly

claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

In the statement of the rejection the Examiner asserts that he is uncertain "as to if the plurality of resistor elements are formed on a single insulating film (i.e., does each discrete insulating film contain two or more resistive elements)." This issue is similar to an issue addressed in the above rejection under the first paragraph of 35 U.S.C. § 112. As shown in Figs. 1A and 1B, feature 2 illustrates the claimed insulating film. In Fig. 1B, which is a cross-sectional view of Fig. 1A, the insulating films 2 appear to be discrete. Referring to Fig. 1A, however, feature 2 is shown to be a single feature that surrounds both features 3 (i.e., the active regions) and features 4 (i.e., the resistive elements). Based upon the above comments, Applicants respectfully submit that one having ordinary skill in the art would have no difficulty in understanding the claimed invention and, hence, solicit withdrawal of the imposed rejection of claims 1-3, 11 and 13 under the second paragraph of 35 U.S.C. § 112.

**CLAIMS 1-13 AND 21 ARE REJECTED UNDER THE SECOND PARAGRAPH OF 35 U.S.C. §**

**112**

In the third enumerated paragraph on page two of the Office Action, the Examiner asserted that claims 1-13 and 21 are indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

The Examiner asserted that "the term 'predetermined' is indefinite" and cited both Seagram & Sons Inc. v. Mazall and In re Russo for support. The Examiner, however, did not discuss why these particular cases were relevant to this issue. Notwithstanding that Seagram & Sons Inc. v. Mazall was decided in 1950, and In re Russo was decided in 1955, Applicants have performed a search on the USPTO website regarding the term "predetermined," and its frequency of use in claims. Of the approximately 2.7 million patents available for only searching (i.e., since 1976), at least one instance of the term "predetermined" can be found in the claims of slightly more than 500,000 of those patents.

*Assuming arguendo* that the two cases cited by the Examiner stand for the proposition that the term "predetermined" is prima facie indefinite, then approximately 18% of all U.S. patents issued since 1976 have been improperly allowed to issue. Applicants, however, proceed under the assumption that the term "predetermined" is not prima facie indefinite. Furthermore, the Examiner has failed to provide any analysis as to why the two cases should apply to the present application. The Examiner should be aware that indefiniteness under the second paragraph of 35 U.S.C. § 112 is a question of law that depends upon the particular facts of each case.

Without the Examiner clearly defining a problem with the term "predetermined" and why this problem concerns the issue of claim definiteness, Applicants cannot fairly evaluate the Examiner's position. Applicants position is that one having ordinary skill in the art would have no difficulty understanding the scope of the claims, particularly when reasonably interpreted in light of the written description of the specification. Thus, Applicants respectfully solicit

withdrawal the imposed rejection of claims 1-13 and 21 under the second paragraph of 35 U.S.C. § 112.

**CLAIMS 1-3, 9-11, 13 AND 21 ARE REJECTED UNDER THE SECOND PARAGRAPH OF 35 U.S.C. § 112**

In the fourth enumerated paragraph on page two of the Office Action, the Examiner asserted that claims 1-13 and 21 are indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

In the statement of the rejection, the Examiner asserted that he is "uncertain how the active regions partition the insulating film." The Examiner also asked the question "how do the active regions partition what is already separated?" Applicants submit that the proper question should be: would one having ordinary skill in the art understand the claimed invention, including the requirement for the active regions to separate the insulation film? The answer to this question, as illustrated in Fig. 1B, for example, is yes. The middle active region 3 illustrated in Fig. 1B partitions (i.e., separates or is between) the insulating film 2 portion on the right and the insulating film 2 portion on the left. Thus, Applicants respectfully solicit withdrawal the imposed rejection of claims 1-3, 9-11, 13 and 21 under the second paragraph of 35 U.S.C. § 112.

**CLAIM 4 IS REJECTED UNDER THE SECOND PARAGRAPH OF 35 U.S.C. § 112**

In the fifth enumerated paragraph on page two of the Office Action, the Examiner asserted that claim 4 is indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

In the statement of the rejection, the Examiner asserted that he is "uncertain as to how the width of the insulating film defines an amount of shift in resistance value of the resistor elements." Fig. 14 and the description of this figure found in the paragraph spanning pages 4 and 5 of Applicants' disclosure describes how the width of an insulating film defines an amount of shift in resistance value of a resistor element. Discussion of this features can also be found in the first full paragraph on page 11 and in the last full paragraph on page 13. Applicants position is that one having ordinary skill in the art would have no difficulty understanding the scope of the claim 4, particularly when reasonably interpreted in light of the written description of the specification. Thus, Applicants respectfully solicit withdrawal the imposed rejection of claim 4 under the second paragraph of 35 U.S.C. § 112.

On page four of the rejection, the Examiner objected to claim 9 as failing to further limit the subject matter of claim 1. Referring to the Amendment filed July 5, 2003, claim 9 depends upon independent claim 5, not claim 1 as asserted by the Examiner. Furthermore, neither claim 1, as asserted by the Examiner, nor claim 5 requires "a plurality of resistor elements between adjacent active regions." Thus, claim 9 further limits the subject matter recited in claim 5, upon which claim 9 depends. Applicants, therefore, respectfully solicit withdrawal of the imposed objection to claim 9.

**CLAIMS 1 AND 3 ARE REJECTED UNDER 35 U.S.C. § 102 FOR ANTICIPATION BASED UPON**

**GARDNER ET AL., U.S. PATENT NO. 6,121,643 (HEREINAFTER GARDNER)**

In the eighth enumerated paragraph of the Office Action, the Examiner asserted that Gardner identically discloses the claimed invention. This rejection is respectfully traversed.

Independent claim 1 has been amended to clarify that the insulating film is an element isolating insulating film. In the statement of the rejection, the Examiner referred to feature 302 as disclosing the claimed insulating film. Feature 302 is described in Gardner as being "a thin gate oxide layer 302" (column 4, line 19). A gate oxide layer, as would be readily recognized by those having ordinary skill in the art, is not comparable to the claimed element isolating insulating film. Thus, Gardner fails to identically describe the claimed invention within the meaning of 35 U.S.C. § 102. Applicants, therefore, respectfully solicit withdrawal of the imposed rejection of claims 1 and 3 under 35 U.S.C. § 102 for anticipation based upon Gardner.

**CLAIMS 5 AND 9 ARE REJECTED UNDER 35 U.S.C. § 102 FOR ANTICIPATION BASED UPON**

**BABCOCK ET AL., U.S. PUBLICATION NO. 2002/0033519 (HEREINAFTER BABCOCK)**

In the tenth enumerated paragraph on page six of the Office Action, the Examiner asserted that Babcock identically discloses the claimed invention. This rejection is respectfully traversed.

Initially, Applicants note that Babcock was cited in the first Office Action, whereas the present Office Action is the fourth Office Action, and in the first Office Action, the Examiner indicated that claim 5 contains allowable subject matter. Under 37 C.F.R. § 1.104(c), the

Examiner is required to "cite the best references at his or her command." Furthermore, since the Examiner was also obligated to reject each claim on all valid grounds available, see M.P.E.P. § 707.07(g), Applicants question why the Examiner waited four Office Actions before citing this reference against claim 5?

Notwithstanding the lateness of the Examiner's rejection, Babcock fails to identically disclose the claimed invention as recited in independent claim 5. Upon reviewing paragraphs [0017]-[0021] and Figs. 2A-2D of Babcock, Applicants are unable to determine where Babcock teaches or suggest that active regions 80 are proximate to each of the resistor elements 60, 70. Feature 80 is illustrated in Figs. 2B and 2C, but feature 80 is not proximate to each of the resistor elements, as recited in claim 5. Furthermore, as previously argued in the Request for Reconsideration filed July 8, 2003, feature 80 would not be recognized by one having ordinary skill in the art as an "active region," as that term is commonly used. Thus, Babcock fails to identically describe the claimed invention within the meaning of 35 U.S.C. § 102. Applicants, therefore, respectfully solicit withdrawal of the imposed rejection of claims 5 and 9 under 35 U.S.C. § 102 for anticipation based upon Babcock.

**CLAIMS 1-3, 11 AND 13 ARE REJECTED UNDER 35 U.S.C. § 103 FOR OBVIOUSNESS  
BASED UPON BABCOCK IN VIEW OF WOLF ET AL. (HEREINAFTER WOLF)**

On pages 6 through 9 of the Office Action, the Examiner asserted that one having ordinary skill in the art would have been motivated to modify the semiconductor device disclosed by Babcock in view of Wolf to arrive at the claimed invention. This rejection is respectfully traversed.



On page seven of the Office Action, the Examiner admitted that "Babcock et al. fail to explicitly teach wherein the active regions partition the insulating film between adjacent resistor elements." The Examiner then asserted the following:

However, Wolf et al., on page 301, teaches that MOS devices (i.e. – active regions) are isolated from each other by shallow trench isolation structures.

It would have been obvious to one of ordinary skill in the art to modify Babcock et al. by incorporating active regions on either side of an insulating region, as taught by Wolf et al., to isolate adjacent active regions, thereby preventing coupling.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place another active region/resistor element combination adjacent the previous active region/resistor element combination to create an array of programmable structures, since it has been held that mere duplication of the essential working parts has no patentable significance unless a new and unexpected result is produced. In re Harza, 274 F.2d 669 (CCPA 1960)

Many of the deficiencies of this argument have already been discussed in the Request for Reconsideration filed July 8, 2003. In particular, feature 80 (i.e., the Examiner's asserted "active region") is not an active region, but instead, feature 80 is described by Babcock as a transistor gate structure. Furthermore, the Examiner has failed to establish that the factual situation of the present application under examination is sufficiently similar to the factual situation found in In re Harza.

The Examiner responded to these arguments on pages 14 and 15 of the Office Action in which the Examiner asserted that "MPEP § 2144 does not explicitly place the burden of proof upon the Examiner to prove that the facts in a prior legal decision are sufficiently similar," and "an 'active region' merely denotes a region wherein gain or energy conversion takes place... [t]he text of Babcock et al. clearly designates the feature (80) as a transistor (i.e. - a device that contains source/drain regions), therefore, the Examiner persists in labeling the active areas as (80)." With regard to the Examiner first counter-argument, it is well established that the burden

of establishing that a prima facie case of obviousness or anticipation is on the Examiner. Furthermore, if the Examiner is to rely upon case law to meet the burden of establishing the prima facie case of obviousness or anticipation, then the Examiner should establish that the cited case law is relevant to the factual situation of application under examination. If the Examiner did not have this burden, the Examiner could cite any number of cases (i.e., hundreds of cases) for any proposition and place undue hardship upon the Applicant to determine whether or not those cases actually applied. Notwithstanding, Applicants have already argued in the Request for Reconsideration filed July 8, 2003, that In re Harza has been improperly applied by the Examiner.

As to the Examiner's counter-argument that the transistor gate structure 80 of Babcock corresponds to the claimed "active region" since the term "active region" denotes a region wherein gain or energy conversion takes place, Applicants note that the Examiner has failed to supply any factual basis for either assertion that (i) an active region, as interpreted by one having ordinary skill in the art, denotes a region wherein gain or energy conversion takes place or (ii) that the transistor gate structure disclosed in Babcock corresponds to the Examiner's interpretation for the term "active region." In this regard, Applicants question how a transistor, which includes several features such as active regions (i.e., source/drain regions) and regions that are not active regions, could be defined as an active region? It is comparable to asserting that the term "wheel" denotes an automobile.

The Examiner's citation to Wolf does not add anything to the Examiner's argument, since all Wolf teaches is that isolation structure separate adjacent transistors, which include active

regions. Notwithstanding whether or not multiple active region/resistor element combinations could have been inferred from Babcock, the Examiner has failed to establish that one of such active regions would necessarily partition an insulating film between adjacent resistor elements that are each formed on the insulating film, as recited in claim 1. The Examiner's argument that "it would have been obvious ... place another active region/resistor element combination adjacent the previous active region/resistor element combination to create an array of programmable structures" fails to state any benefit that could not have already been accomplished by Babcock alone. Babcock already discloses a structure capable of performing an array of programmable structures. As such, the Examiner has failed to assert any realistic motivation to modify Babcock so as to arrive at the claimed invention.

Applicants further note that claim 1 has been amended to clarify that the active regions are formed in the semiconductor substrate. As clearly shown in Fig. 2C of Babcock, the Examiner's alleged active region 80 is not formed in the semiconductor substrate 10 of Babcock. Therefore, the claimed active regions found in claim 1 are further distinguishable from feature 80 of Babcock. For the reasons stated above, Applicants, therefore, respectfully solicit withdrawal of the imposed rejection of claims 1-3, 11 and 13 under 35 U.S.C. § 103 for obviousness based upon Babcock in view of Wolf.

**CLAIM 4 IS REJECTED UNDER 35 U.S.C. § 103 FOR OBVIOUSNESS BASED UPON BABCOCK  
IN VIEW OF VAN ZANT**

On pages 9 and 10 of the Office Action, the Examiner relied on pages 30-31 in Van Zant for the proposition that a resistor's resistance varies inversely with the width of the resistor. In this

regard, Applicants are unsure as to what relevance this teaching has to the limitations recited in claim 4, reproduced in part below:

said insulating film under said resistor elements is set to a predetermined width by said active regions, wherein said predetermined width is defined by an amount of shift in resistance value of said resistor elements, said amount of shift being defined by said predetermined width. (emphasis added)

The "predetermined width" being specified is the width of the insulating film, which is under the resistor elements. Specifically, the predetermined width is defined by an amount of shift in resistance value of the resistor elements. This is a completely different concept than the principle in Van Zant that a resistor's resistance varies inversely with the width of the resistor, as Van Zant is completely silent as to the width of an insulating film under resistor elements.

Applicants, therefore, submit that even if one having ordinary skill in the art were motivated to combine Babcock and Van Zant, the claimed invention would not result. Applicants, therefore, respectfully solicit withdrawal of the imposed rejection of claim 4 under 35 U.S.C. § 103 for obviousness based upon Babcock in view of Van Zant.

**CLAIMS 1-3 AND 11 ARE REJECTED UNDER 35 U.S.C. § 103 FOR OBVIOUSNESS BASED UPON WU, U.S. PUBLICATION NO. 2002/0084886 IN VIEW OF BABCOCK**

On pages 10-13 of the Office Action, the Examiner asserted that one having ordinary skill in the art would have been motivated to modify Wu in view of Babcock to arrive at the claimed invention. This rejection is respectfully traversed.

The Examiner has again misapplied the law recited in In re Harza. Notwithstanding whether or not multiple active region/resistor element combinations could have been inferred from Wu, the Examiner has failed to establish that one of the active regions of Wu would

necessarily partition an insulating film between adjacent resistor elements that are each formed on the insulating film, as recited in claim 1, and the statement of the rejection is completely silent as to this limitation. Since neither Wu nor Babcock (as previously argued), alone or in combination, teaches or suggests this limitation, Applicants respectfully solicit withdrawal of the imposed rejection of claims 1-3 and 11 under 35 U.S.C. § 103 for obviousness based upon Wu in view of Babcock.

**CLAIM 4 IS REJECTED UNDER 35 U.S.C. § 103 FOR OBVIOUSNESS BASED UPON WU IN  
VIEW OF BABCOCK AND VAN ZANT**

On pages 13 and 14 of the Office Action, the Examiner relied on pages 30-31 in Van Zant for the proposition that a resistor's resistance varies inversely with the width of the resistor. In this regard, Applicants incorporate herein the arguments previously presented with regard to the Examiner rejection of claim 4 for obviousness based upon Babcock and Van Zant. Specifically, the teaching in Van Zant that a resistor's resistance varies inversely with the width of the resistor is completely different than the limitation recited in claim 4, which is that a predetermined width of an insulating film under resistor elements is defined by an amount of shift in resistance value of the resistor elements. Applicants, therefore, solicit withdrawal of the imposed rejection of claim 4 under 35 U.S.C. § 103 for obviousness based upon Wu in view of Babcock and Van Zant.

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. However, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. Accordingly, and in view of the foregoing

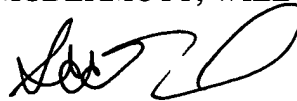
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remarks, Applicants hereby respectfully request reconsideration and prompt allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417, and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

A handwritten signature in black ink, appearing to read 'Scott D. Paul', is written over the firm name.

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